

*REMARKS/ARGUMENTS*

In response to the Office Action mailed January 9, 2008, Applicants amend their application and request reconsideration. Claim 8 is newly cancelled and new claims 65-70 are added, cancelled so that claims 5, 9-14, 17, 19, 22, 24, 26-28, 32-34, and 61-70 are now pending.

Five independent claims remain pending. Independent claims 5, 17, and 61 have been amended by adding language to each of the claims. The language is different in each of the claims, but describes partitioning a memory into four separate memory areas. Further, added dependent claims 65-67 describe partitioning to add a fifth memory area. These amendments are supported in the patent application as filed by the description at page 7 lines 9-24 and from page 22, line 11 to page 23, line 3. The first, second, third, fourth, and fifth memory areas can be correlated with the partitions 51, 52, 53, 55, and 54 of the described embodiments, respectively. The disclosure cited supports the claim amendments and the new claims 65-67.

Independent claims 22 and 28 are amended to describe the prioritization feature disclosed in the patent application at page 8, lines 13-19. New claims 68-70 are also derived from the same disclosure. In fact, new claims 68 and 69 are derived from the final paragraph of the previous form of claim 22 and new claim 70 is based on the final paragraph of the previous form of claim 22.

Although the Office Action mailed January 9, 2008, is stated to be a new rejection, it appears that much of the commentary is a verbatim reproduction of comments in prior office actions. Applicants have made a significant effort in an attempt to understand the rejections and to advance the prosecution by clarifying what is claimed. As before, because it has been difficult to understand the rejections and to form a clear understanding of the basis of the rejections, Applicants respond here, to the best of their understanding, with respect to the rejections of the independent claims. Applicants specifically maintain the remarks and arguments of the

previous Responses, to the extent still applicable, and incorporate those comments and arguments by reference to the extent not set out again here.

An important feature of the invention, as explained in the previous Responses, relates to the processing of previously recorded information with a relatively inexpensive, low-computing-power apparatus. In the process that is the subject of the invention, previously recorded information, for example, audio information, is transferred from a previously recorded source, in an uncompressed format, to a memory device. Then, subsequently, that information, generally referred to as a set of signals in the claims, is retrieved from the memory device to which it has been transferred and converted into a compressed format. The information in the compressed format is subsequently stored. The memory space previously occupied by the set of signals in the uncompressed format is then released for re-use in the process.

The memory space recycling feature of the invention has been emphasized in the amendment of independent claims 5, 17, and 61. The emphasis is supplied by describing the partition of a memory device, the storage of particular signals in the respective memory areas, i.e., partitioned parts, of that memory device depending on format and source of the stored signals, and the release of some of the memory space to another of the memory spaces for constant recycling and re-use. This process makes possible the use of the inexpensive memory that is an important advantage of the invention.

Amended claims 22 and 28 particularly explain the retrieval of a set of signals in the compressed format, the conversion of those signals to an uncompressed format, and their reproduction for perception. In order to minimize the computing power needed, these processes are carried out in a prioritized way so that few, perhaps even only one, such processes are carried out at one time by a relatively low computing-power, low-cost processor. For example, there is no conversion of a set of signals in the uncompressed format to signals in the compressed format when there is an ongoing retrieval of a set of signals in the compressed format and their conversion into an uncompressed format for perception.

All pending claims were again rejected as obvious over Fiedler (U.S. Patent 6,804,638) in view of Dye (U.S. Patent 6,370,631). This rejection is again respectfully traversed.

As best understood, Dye was relied upon solely as describing a compression/decompression algorithm to supply the parts of the claimed invention relating to compressing and decompressing signals, digital signals, and audio tracks, acknowledged to be absent from Fiedler. Assuming, for the sake of argument, that Dye includes such a disclosure, the remainder of the claimed subject matter must be found in Fiedler for the rejection to be properly maintained with respect to the pending claims.

Fiedler describes an apparatus and associated method directed to recording, essentially continuously, a source of information for which a subsequent decision may be made for permanent storage of that information. The previously unrecorded information being received is continually recorded on a circular buffer of relatively large, but finite, capacity. Recording in that circular buffer begins at some arbitrary time and information is continuously recorded until the circular buffer is filled. When the capacity of that circular buffer is nearly reached, then the contents of the circular buffer may be transferred to an acquisition buffer for long term or permanent storage or be discarded as new information is continually flowing into the circular buffer.

The circular buffer in Fiedler permits a belated decision on whether to store the incoming information, a decision that is made sometime after the information is received and initially stored in the circular buffer. The deadline for making the decision as to storage depends upon the capacity of the circular buffer and of the acquisition buffer. An example in Fiedler concerns recording of a telephone conversation that may be illegal until a participant's permission is obtained. If and when permission is obtained for recording, the recording party can then capture the telephone conversation from the beginning, based on the tentative recording in the circular buffer. As described by Fiedler, the beginning information is saved until a "discard" or a "keep" decision is made with respect to the telephone conversation

example. Fiedler provides other examples of conceptually similar delayed decisions in determining whether to save, permanently, live information that is being captured continuously.

The invention as defined by amended claims 5, 17, and 61 is substantially different from and is neither described by nor suggested by Fiedler, even omitting the compression and decompression features for which reliance was placed upon Dye. As previously explained, and succinctly described at pages 6-9 of the patent application, even using the reduced computing capacity of a microprocessor employed in the invention, a 60-minute music CD can be stored on a hard disk within six to eight minutes. The information from the CD is transferred to the first memory or storage device in an uncompressed format, transferred again, converted to a compressed format and finally stored in that compressed format.

Independent claims 5, 17, and 61 expressly describe the dynamic partitioning of a memory into four distinct memory areas. The partitioning is dynamic because memory space can shift from one memory area to another in the performance of the claimed method.

Fiedler describes a memory that includes a plurality of buffers. Data is shifted in and out of those buffers, and even between the buffers, but there is never any change of memory capacity of any of the buffers, according to Fiedler. Of course, in the circular buffer of Fiedler, there is continuing recirculation of memory space that may be overwritten. But that overwriting is not the same as releasing memory space in a memory that was formerly occupied by uncompressed signals that have been compressed, as described in claims 5, 17, and 61.

According to the Office Action, there is a reference to re-storing the compressed data to create more memory space at column 7, lines 34-40 of Fiedler. However, that passage only describes the gradual filling of a memory in Fiedler, depending upon a "capture interval." There is no discussion of any response to the diminishing memory area except with respect to a change in the capture interval and

concurrent compression of captured data. That arrangement is substantially different from the dynamic memory partitioning described in claims 5, 17, and 61.

Since the important dynamic partitioning feature of claims 5, 17, and 61 is not described nor suggested in Fiedler, the previous rejection, which remains erroneous for the reasons previously presented, cannot properly be applied to any of amended claims 5, 9-14, 17, and 61-67.

The method of claim 22 includes an important prioritization, recited in the final paragraph of that claim. That prioritization permits the use of a low computing-power processor. Initially, that paragraph describes retrieving and decompressing audio tracks so that the tracks can be reproduced for perception. Other paragraphs of that claim describe the transfer of previously recorded information between first and second storage devices in an uncompressed format, the subsequent retrieval and compression of audio tracks from the second storage device, and storage of the audio tracks in the compressed format in that second storage device. These processes do not all occur simultaneously. Rather, as described in the final paragraph of claim 22, decompressing a set of audio tracks in the compressed format always takes precedence over compressing a set of audio tracks. Claim 68 further explains the precedence of transferring over compressing. Claim 69 explains, as in former claim 22, that a pending request for an audio track to be played, i.e., retrieved in a compressed format and converted to an uncompressed format, trumps compressing of a set of audio tracks. Further, there is no simultaneous compressing of audio tracks and decompressing of audio tracks. These express limitations on the method again provide the advantages of low cost in the execution of the method so that apparatus performing the method can be readily manufactured for consumers at an acceptable market price.

Claim 28 is directed to a “system” including a processor that is programmed to carry out a method, like the method described in claim 22. The system of claim 28 prioritizes retrieving and converting to an uncompressed format digital signals that had been previously compressed, as compared to compressing a set of digital signals

and storing a set of digital signals after compression. As explained in claim 28, the processor gives priority to converting a set of signals in a compressed format into an uncompressed format, i.e., for reproduction and perception, over converting a set of digital signals in an uncompressed format into the compressed format. In other words, the processor is programmed so that these processes do not occur simultaneously and reproduction of stored signals is given priority over further processing of signals to be stored. Claim 70 adds to claim 28 essentially the same limitations added by claim 69 to claim 22. Thus, the system minimizes the computing power required while providing the user with apparently seamless reproduction of stored information that has been compressed to minimize the memory capacity needed by the system.

Nothing similar to the prioritizing arrangement of claims 22 and 28 is described anywhere within Fiedler. Applicants do not dispute that, as asserted in the Office Action, the information of Fiedler that is stored in the circular buffer and contingently transferred to the acquisition buffer might be considered audio tracks or digital signals. However, there is no discussion of any prioritization with respect to compressing and decompressing steps in Fiedler as in claims 22 and 28.

In discussing claim 22 at pages 5 and 6 of the Office Action of January 9, 2008, the Examiner made reference to a "prioritization" in Fiedler that depends upon the type of information stored and the degree to which the Fiedler buffers are filled. These comments are not relevant to claims 22 and 28. The decision in Fiedler not to record permanently some temporarily captured data from the circular buffer does not relate to the prioritization mentioned in claims 22 and 28. That prioritization relates to compressing and decompressing, not to making a decision concerning whether to store particular data based on the type of data or remaining unfilled proportion of the buffer.

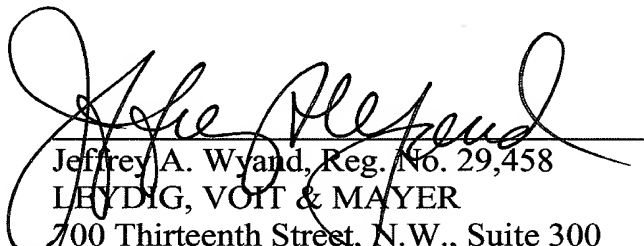
Further, the cited passage of Fiedler, at column 7, lines 26-30, shows that there is no prioritization, even with respect to the determination as to whether captured data should be stored. Instead, only preference for deferring storage until an acquisition buffer is about to be overwritten is described. That passage, as already stated, bears no connection to the prioritization between compression and decompression of data,

particularly in relationship to a pending request for playing of audio data or the conversion of digital signals for reproduction, as expressly described in claims 69 and 70.

Finally, the other cited parts of Fiedler, in columns 4, 5, and 10, do not relate to the prioritization of the final paragraphs of claims 22 and 28. The commentary in the Office Action does not supply an explanation as to how those passages actually relate to that prioritization. In fact, the first of the cited passages again describes concurrent operations when, by contrast, a serial arrangement is described in claims 22 and 28. The rejection of claims 22 and 28, and their dependent claims, claims 24, 26, 27, and 68-70, should now be withdrawn and not applied to the amended claims.

Reconsideration and allowance of all claims now pending are earnestly solicited.

Respectfully submitted,

  
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